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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,323	07/29/2003	Hardayal Singh Gill	HSJ920030016US3 (HITG.055)	6605
51298	7590	07/25/2005	EXAMINER	
CRAWFORD MAUNU PLLC 1270 NORTHLAND DRIVE SUITE 390 ST. PAUL, MN 55120			HEINZ, ALLEN J	
			ART UNIT	PAPER NUMBER
			2653	

DATE MAILED: 07/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/629,323	Applicant(s) GILL ET AL.	
	Examiner A. J. HEINZ	Art Unit 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) 11-32 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/29/03&11/17/03</u> . | 6) <input type="checkbox"/> Other: ____. |

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1. Claims 1-10 are withdrawn from further consideration by the examiner, pursuant to 37 CFR 1.142(b) as being drawn to a non-elected invention. Election was made **without** traverse in Paper dated 5/9/05.

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The Title should provide a more detailed structural identification of the feature or features which distinguish the invention from the prior art. The intended results produced by the structural differences can also be part of the content of the Title but should follow the structural detail.

The portion of the Title directed to the method should be deleted.

3. The following is a quotation of 37 CFR 1.71(a)-(c):

(a) The specification must include a written description of the invention or discovery and of the manner and process of making and using the same, and is required to be in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which the invention or discovery appertains, or with which it is most nearly connected, to make and use the same.

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(b) The specification must set forth the precise invention for which a patent is solicited, in such manner as to distinguish it from other inventions and from what is old. It must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth.

(C) In the case of an improvement, the specification must particularly point out the part or parts of the process, machine, manufacture, or composition of matter to which the improvement relates, and the description should be confined to the specific improvement and to such parts as necessarily cooperate with it or as may be necessary to a complete understanding or description of it.

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP §608.01(o). Correction of the following is required: Cls.15&25, for example, contain terminology which fails to find support in the specification; e.g. "first end" or "second end", "central portion", etc.

*An exhaustive search has not been attempted, but only exemplified in the preceding paragraph. Therefore the applicant is responsible for a thorough review of all the claims to make corrections as appropriate.

4. Claims 15-18,25-28 are rejected under 35 U.S.C. §112, first paragraph, as directed to subject matter which was not described

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in the specification in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention. See previous paragraph.

5. Claims 11-32 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Cls.11-32 are incomplete: what parameter is "anti-parallel" referring to?

An exhaustive search of indefinite and/or ambiguous language has not been attempted, but only exemplified in the preceding paragraphs. Therefore the applicant is responsible for a thorough review of all the claims to make corrections as appropriate.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. §102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 11,12,14-22,24-32 are rejected under 35 U.S.C.

§102(b) as being anticipated by Carey.

See Figures 3B&7. Note, to the extent claimed and understood, first hard biasing layers 22 abut free layer 32 with second hard biasing layers 26 having their magnetization anti-parallel to layers 22 and discontinuous from the free layer 22. The second hard biasing layers 26 could be formed over the first hard biasing layers 22 as is well known in the art and shown in the 'bottom spin valve' configuration shown in figure 7 and disclosed in col.8, lines 46+.

Re claims 21,22,24-30,32; because the sensor as claimed in claims 11-20 is anticipated by Carey and is intended to be used in disk drive applications (see FIELD AND BACKGROUND OF THE INVENTION), these claims are also fully anticipated.

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8. The following is a quotation of 35 U.S.C. §103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 13,23 rejected under 35 U.S.C. §103(a) as being unpatentable over Carey as applied to claims 11,12,14-22,24-32 above, and further in view of routine experimentation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to fabricate the first hard biasing layers with a greater thickness than the second hard biasing layers.

Rationale: the claimed limitations are of a nature that would allow one of ordinary skill in the art to which said subject matter pertains, the capability of adjusting/modifying same during routine investigation of the design/operation of the

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sensor to establish an overall thickness of the sensor by varying the thicknesses of the component layers. See Carey, for example col. 5, lines 53-57.

10. For a complete response applicant should identify how the claimed structure of his invention defines over **all** the art of record.

Moreover, where the applicant disagrees with the reasoning and/or application of the prior art on critical points of the claims, they should identify how the claimed structure of their invention defines over **all** the art of record not just the applied art.

Where applicant believes that the art is redundant and/or superfluous relative to the critical aspects of the claimed invention the applicant may simply state so in rebuttal summary.

Also note, applicant's silence pertaining to claimed features will be taken as an indication that same is not of significant import in defining the scope of applicant's invention and may be considered as inherent in the prior art and/or obvious over the art of record.

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11. If applicant has filed an information disclosure statement and this instant office action does not contain an initialed-off copy (or copies) of all such filed IDS's (or at least a comment to the disposition of such IDS'S in the body of the office action itself) applicant should apprise the examiner of such missing documentation [to the IDS's] in response to this office action so that the examiner can take appropriate action to supply same to the applicant.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to A. J. HEINZ whose telephone number is (571) 272-7587. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM KORZUCH can be reached on (571)272-7589.

The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. J. HEINZ
Primary Examiner
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